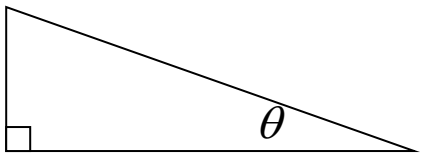
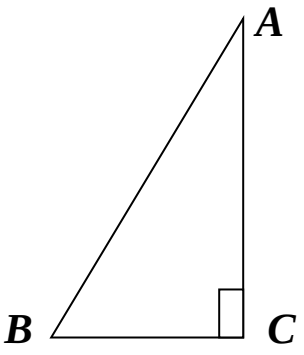
Math 41 worksheet #2

10. Label the right triangle to evaluate, assume the angle is acute.

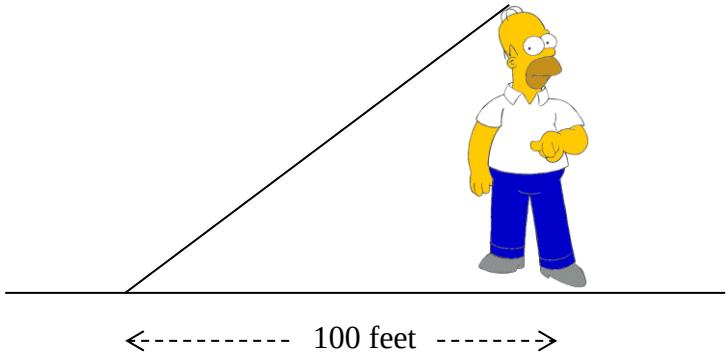


Given $\csc\theta = \frac{7}{2}$, find $\cos\theta =$.

11. Given side $a = 3$, and side $b = 8$, find angle ***A*** of the right triangle in degrees rounded to one decimal.



12. The angle of elevation from a point 100 feet from the base to the top of a Homer Simpson Macy's Thanksgiving Day parade balloon is approximately 32°. Find the approximate height of the balloon.



13. Find $\csc\theta$ given the terminal side of θ passes through the point $(2,-3)$.

14. Find the $\tan\theta$ given $\sin\theta = -\frac{3}{8}$ and $\cos\theta > 0$.

$\tan\theta =$

15. Evaluate the trigonometric function without using a calculator:

a. $\sin 300^\circ =$

b. $\cos 135^\circ =$

16. Evaluate the trigonometric function without using a calculator:

a. $\tan \frac{4\pi}{3} =$

b. $\sin \frac{5\pi}{6} =$

17. If possible, evaluate the trigonometric function of the quadrant angle.

a. $\tan \frac{3\pi}{2} =$

b. $\sin 180^\circ =$

18. Find two solutions in radians $(0 \le \theta \le 2\pi)$ of the equation without using a calculator:

$$\sin \theta = -\frac{1}{2}$$

19. Find two solutions in radians $(0 \le \theta \le 2\pi)$ of the equation without using a calculator:

$$\cot\theta = 1$$

20. Solve for θ, in radians $0 \le \theta \le 2\pi$ without using a calculator.

$$\cos^2\theta - \sin\theta - 1 = 0$$

21. Solve for θ, in radians $0 \le \theta \le 2\pi$ without using a calculator..

$$2\cos^2\theta - \cos\theta - 1 = 0$$

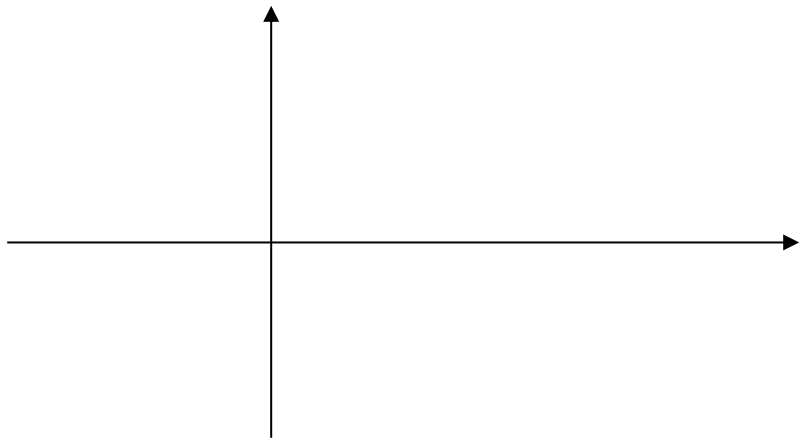
22. Use a calculator to approximate two values of θ in radians $(0 \le \theta < 2\pi)$ that satisfy the equation. Round your answers to two decimal places

$$5\tan x - 8 = 0$$

23. Sketch one full period of the graph of $y = 4\sin(2x - \pi)$, by finding all of the following:

amplitude:
period:
step:
starting point (phase shift):

key points:
(,)
(,)
(,)
(,)
(,)



24. Find each of the following without using a calculator.

a. $\arcsin\left(\frac{1}{2}\right) =$

b. $\arccos\left(-\frac{\sqrt{2}}{2}\right)$